

Appl. No. 10/585,398

Amdt. dated Dec. 19, 2008

Reply to Office action of Oct. 28, 2008

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1- 35 (canceled)

**New set of claims:**

Claim 36 An automatic weapon with caseless ammunitions wherein the improvement comprises:

- a breech piston and a barrel chamber sealing device,
- a breech and barrel coupling device,
- a clip compartments sequencing device connected to the magazine well,
- a trigger guard bolt device,

characterized in that the sealing device use gas pressure and be composed with:

- a ball joint (41 sept.) connected to the breech piston, said joint being in contact with the barrel chamber (62) wall and such that:
  - the thickness of said joint profile cross section decrease regularly, according to a curved master line, from the base (B) to the upper edge (O) in order to favor, under gas pressure or a narrowing chamber (62), a radial adjustment of said curved line combined with a torsion of said complete section (fig. 6/17) swiveling on its base,
  - the outside of said joint (41 sept) bearing a spherical sector (fig. 6/15), symmetrically distributed on each side of the largest diameter (C), advantageously matching the chamber boring in order to favor a linear contact with said chamber wall,
- a tapered (fig. 6/15 & 6/16, A) chamber (62) such that the ball joint be in linear ball contact with said chamber wall when said piston is reaching its course limit.

**Claim 37** An automatic weapon for caseless ammunitions according to claim 36 characterized in that the spherical sector (41 eleven, fig. 6/19 & 6/20) of the ball joint be part of the breech piston to form an integrated ball-joint piston.

**Claim 38** An automatic weapon with caseless ammunitions according to claim 36 characterized in that the ball joint (41 sept ) be arranged:

- in front of radial openings (40 thrice) distributed at the rim of the case seat located at the breech head so as to uniformly distribute the propellant gases to the inner face of said joint and generate a radius increase for a stronger contact with the chamber wall (62),

- upside-down (41 oct.) at the piston root (fig/ 6/16) to close the chamber opening with a linear contact of said ball joint rim with the chamber entry wall as soon as the cylinder head is fully closed.

Claim 39 An automatic weapon with caseless ammunitions according to claim 36 characterized in that the breech and barrel coupling device be composed of:

- radial tenon housings (56), communicating with channels (39, 40) opening at the cartridge seat level,
- tenons (54, 55).

Claim 40 An automatic weapon with caseless ammunitions according to claim 36 characterized in that the trigger guard bolt (68) device be composed of:

- an operating (68) lever integral with the trigger guard bolt (66) and retractable in a housing (69),
- a trigger locking device maneuvered by angular rotation of said trigger (64) following a pressure on its back face.

Claim 41 An automatic weapon with caseless ammunitions according to claim 36 and 40 characterized in that the trigger locking device be composed of a female housing (67) to receive the warp end (66 twice) of the trigger guard bolt and a circular cam (67 twice) over a portion of angle corresponding to the backwards clearance of the trigger, said cam on which the warp end is pressing under the action of the return spring of the bolt and said housing (67) positioned in the warp end axis after the trigger has carried out an anti-clockwise rotation.

Claim 42 An automatic weapon with caseless ammunitions according to claim 36 characterized in that the clip compartments sequencing device be composed of a front conveyer button (101) and a cartridge stopper arm (103), bearing at an end a horizontal abutment (103 twice), articulated on the back wall of the magazine well via an axis crossing the frame:

- either parallel to the barrel axis in order to ensure a lateral swiveling of the stopper-arm (103) and its horizontal abutment (103 twice), said swiveling initiated by the rise of the front conveyer button (101) which, as soon as the last cartridge leaves the compartment, causes the swing of a transmitting rod housed in the internal side wall of the magazine well, said rod mounted swiveling on its median axis to cooperate with an arm integral to that (103) of the cartridge stopper to involve its lateral swiveling,
- either perpendicular (fig. 20) to the barrel axis in order to produce a backwards rotation of the stopper (103 twice) of which the locking-arm (103 thrice) bears a pin (102 twice) at its end to co-operate with a tipping arrester hook (102).

**Claim 43** An automatic weapon with caseless ammunitions according to claim 36 and 42 characterized in that the arrester hook (102) comprises a cam (102 thrice) cooperating with the conveyer side button (101) of the front compartment in order to cause its swiveling.